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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	**PLANK, ET AL**	**Examiner: LESLIE A. WONG**	
Serial No.:	**10/658,682**	**Group Art Unit: 1761**	
Filed:	**SEPTEMBER 9, 2003**		
For:	**CYCLODEXTRIN-CONTAINING COMPOSITIONS AND METHODS**	**Docket No. (GMI0012/US)**	**6137US**

Mail Stop: Appeal Brief - Patents
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I HEREBY CERTIFY THAT ON SEPTEMBER 7, 2007, THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST CLASS MAIL, ADDRESSED TO MAIL STOP AF, COMMISSIONER FOR PATENTS. P. O. BOX 1450, ALEXANDRIA, VA 22313-1450

Mary C. Deutsch
MARY C. DEUTSCH

APPEAL BRIEF

Dear Sir or Madam:

This Appeal Brief is being submitted in support of an Appeal from the Final Rejection mailed April 4, 2007, in connection with the above-identified patent application.

A Notice of Appeal was filed on June 29, 2007 and received in the US Patent Office on July 2, 2007 with the required fee of $500.00 for the Notice of Appeal.

A Request for Pre-Appeal Brief Review was also filed on June 29, 2007, and the Notice of the Panel Decision from that request was mailed August 7, 2007.

Enclosed is a check in the amount of $500.00 for filing this Appeal Brief. It is believed that no other fee(s) are required in filing this paper. However, if any other fee(s) are required, then Applicants hereby authorize such fee(s) therefore to be charged to the Kagan Binder Deposit Account No. 50-1775 and notify us of the same.

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I. Real Party in Interest

General Mills Marketing, Inc., the assignee of record, is the real party in interest.

II. Related Appeals and Interferences

There are no related appeals or interferences.

III. Status of Claims

Claims 1-12, 21 and 22 are currently pending in the application.

Claims 1-12, 21 and 22 have been rejected.

Claims 13-20 have been cancelled.

The rejection of Claims 1-12, 21 and 22 is appealed.

IV. Status of Amendments

No amendments of the claims have been filed subsequent to Final Rejection.

V. Summary of Claimed Subject Matter

Claims 1, 6 and 12 are the only independent claims pending in the present application.

1. A method of improving flavor stability in a food product that is designed to exhibit a crispy or springy characteristic, comprising

incorporating at least one cyclodextrin in the food product in an amount effective to improve flavor stability, wherein the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

6. A method of improving crispness stability of a food product, comprising

incorporating at least one cyclodextrin in the food product in an amount effective to improve crispness stability, wherein the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

12. A method of forming a food treatment composition, comprising:

a) providing a cyclodextrin;

b) hydrating the cyclodextrin with water; and

c) mixing the hydrated cyclodextrin with a fat to form a cyclodextrin/fat composition with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

Elements of these claims are explained in detail with reference to the specification as follows:

Claim 1 recites that the food product is of the category wherein the food product is designed to exhibit a crispy or springy characteristic. This feature is described in the specification at page 2, line 24 to page 3, line 29..

Claims 1, 6 and 12 provide that the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat. This feature is described in the specification at page 6, lines 1-5.

Claim 6 recites that the textural aspect of the food product that is improved is the crispness stability of the food product. This feature is described in the specification at page 2, lines 28-30.

Claim 12 recites hydrating cyclodextrin with water and mixing the hydrated cyclodextrin with a fat to form a cyclodextrin/fat composition at page 6, lines 24-26.

VI. Grounds of Rejection to be Reviewed on Appeal

The following grounds of rejection are to be reviewed in this Appeal:

A. Has the Examiner established a *prima facie* case to support the rejection of claims 1-12, 21 and 22 under 35 U.S.C. 103(a) as being unpatentable over JP 55-345042, Lee (U.S. Patent 5,780,089), and Prasad et al (U. S. Patent 6,287,603)?

VII. Argument

A. The Examiner has not established a *prima facie* case to support the rejection of claims 1-12, 21 and 22 under 35 U.S.C. 103(a) as being unpatentable over JP 55-345042, Lee (U.S. Patent 5,780,089), and Prasad et al (U. S. Patent 6,287,603).

The present claims relate to unique uses of cyclodextrin in food, which are carried out by adding the cyclodextrin to certain classes of foods in a unique format at the time of incorporation. These specific methods as embodied in the claims are summarized as follows, with critical aspects of the invention being emphasized by underlining:

In one aspect, a method of improving flavor stability in a food product that is designed to exhibit a crispy or springy characteristic, is provided by incorporating at least one cyclodextrin in the food product in an amount effective to improve flavor stability, wherein the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

In another aspect, a method for improving crispness stability of a food product is provided by adding cyclodextrin with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

In another aspect, a method of forming a food treatment composition is provided, comprising:

a) providing a cyclodextrin;

b) hydrating the cyclodextrin with water; and

c) mixing the hydrated cyclodextrin with a fat to form a cyclodextrin/fat composition with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

The references cited in the Final Office Action are markedly different from the presently claimed invention, and fail to present a prima facie case of obviousness.

JP 55-34042 describes the use of cyclodextrin to remove butter-like flavor and to improve meltability of ice cream in the mouth by adding cyclodextrin to butter or butter

oil and using that material as a raw material for ice cream. JP '042 thus different from the present claims both in the nature of the food product to be improved, and the manner in which the cyclodextrin is used in the food product.

Ice cream is a food product that is physically very different from the food products of the present invention, because it is not capable of being either crispy or springy. A focus of JP '042 is to address a specific organoleptic property that is unique to ice cream - changing the melt characteristic of the ice cream in the mouth. The skilled artisan would have no reason to apply technology used for changing a melt characteristic of ice cream in a food product having a different physical nature, i.e. a food product having a crispy or springy characteristic. The change of the physical nature of the food product would destroy the functionality or purpose of this reference.

An additional focus of JP '042 is to remove the butter-like flavor from butter or butter oil by sequestering the flavor before it is added to the ice cream. JP '042 thus utilizes cyclodextrin in a manner that is opposite that of the presently claimed invention, because it encapsulates butter flavor prior to incorporation of the cyclodextrin in the prior art. The skilled artisan would have had no reason to change the way in which the cyclodextrin is used from the prior art sequestering of butter flavor prior to incorporation into the food product to the presently claimed providing cyclodextrin that does not contain an additional ingredient when added to the food product. Again, such a change would destroy the functionality of this reference.

For these reasons, it is respectfully submitted that the JP '042 reference does not render the present claims obvious.

Lee (U.S. 5,780,089) describes a flavor composition comprising a complex of a pyrolyzed fat/oil flavor with a gelatinized amylose or a blend of the complex with a protein hydrolyzate, and foodstuffs containing these flavor compositions. See the Abstract. In one example, cyclodextrin is used to encapsulate a pyrolyzed oleic acid flavor. See column 3, lines 32-45. The function of cyclodextrin in this reference is to carry flavorant into the food. In the operation of this prior art technology, the cyclodextrin must contain an additional ingredient when added to the food product. This is in direct contrast to the present claims, which require that the cyclodextrin does not

contain an additional ingredient when added to the food product. The skilled artisan would have had no reason to remove the flavorant from the cyclodextrin of Lee, because this would destroy the functionality of the technology disclosed therein.

For these reasons, it is respectfully submitted that the Lee reference does not render the present claims obvious.

Prasad et al (U.S. 6,287,603) describes preparing cyclodextrin inclusion complexes, wherein a "solids content increasing agent" is the active agent that is contained within the cyclodextrin. The active agent of the inclusion complex is provided to thicken soups and drinks (see column 2, lines 46-48), which is a very different product and function from the presently claimed crispy or springy products, and the presently claimed method of improving crispness stability. The very function of Prasad is tied to the food product being in the liquid state, because the active ingredient included in the cyclodextrin performs a thickening action. To change the food product of Prasad from a liquid product to a springy or crispy product destroys the operation of the technology described therein. Further, to remove the included active agent to instead provide a cyclodextrin with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat as required by the present claims destroys the operability of the reference.

For these reasons, it is respectfully submitted that the Prasad reference does not render the present claims obvious.

It is respectfully submitted that the above references cannot form the basis for a rejection of the invention as claimed, because any adaptation of the materials of the prior art to meet the present claim limitations would destroy the functionality of each of the references. The above references therefore cannot alone or in combination form the basis of an assertion that the present claims are obvious.

Claims 6-11, 21 and 22

Separate consideration of patentability of claims 6-11, 21 and 22 is requested, because these claims specifically are drawn to a method of improving crispness stability

in a food product. The cited references clearly are not applicable to this method, because JP '042 and Prasad relate to food products (i.e. ice cream and liquid) that are not capable of being crisp. Lee describes a system where cyclodextrin is used to encapsulate a pyrolyzed oleic acid flavor, and therefore clearly fails to describe or suggest a method where cyclodextrin does not contain an additional ingredient when added to the food product. The skilled artisan in particular would not have had a reason to carry out the presently claimed method in view of the very remote disclosures of these references.

Conclusion

It is respectfully submitted that the Appellant's have shown that the rejection of claims 1-12 and 21 and 22 is unsound and must be reversed. It is also respectfully submitted that that the pending claims are in condition for immediate allowance. Favorable action by the Board and allowance of all claims is, therefore, respectfully solicited

Dated: September 6, 2007

Respectfully submitted,

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VIII. Appendix – Claims on Appeal

1. A method of improving flavor stability in a food product that is designed to exhibit a crispy or springy characteristic, comprising

incorporating at least one cyclodextrin in the food product in an amount effective to improve flavor stability, wherein the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

2. The method of claim 1, wherein the cyclodextrin comprises alpha cyclodextrin.

3. The method of claim 1, wherein the cyclodextrin is applied topically to the food product.

4. The method of claim 3, wherein the cyclodextrin is applied to the food product after the final heat treatment of the food product.

5. The method of claim 1, wherein the cyclodextrin is internally incorporated in the food product.

6. A method of improving crispness stability of a food product, comprising

incorporating at least one cyclodextrin in the food product in an amount effective to improve crispness stability, wherein the cyclodextrin is added to the food product with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

7. The method of claim 6, wherein the cyclodextrin comprises alpha cyclodextrin.

8. The method of claim 6, wherein the cyclodextrin is applied topically to the food product.

9. The method of claim 8, wherein the cyclodextrin is applied to the food product after the final heat treatment of the food product

10. The method of claim 6, wherein the cyclodextrin is internally incorporated in the food product.

11. The method of claim 6, wherein the food product comprises a plurality of components, wherein the water content difference between two of the components is at least 1%.

12. A method of forming a food treatment composition, comprising:

a) providing a cyclodextrin;

b) hydrating the cyclodextrin with water; and

c) mixing the hydrated cyclodextrin with a fat to form a cyclodextrin/fat composition with no additional ingredients contained within the cyclical structure of the cyclodextrin other than fat.

13-20. (cancelled)

21. The method of claim 6, wherein the food product is a dry cereal comprising a grain component and a dried fruit component.

22. The method of claim 21, wherein the grain component has a water content of about 5% by weight and the dried fruit component has a water content of greater than about 8%.

IX. Appendix - Evidence

None.

X. Appendix - Related Proceedings

None.